

03040202-090

(*Lynches River*)

General Description

Watershed 03040202-090 is located in Lee, Darlington, Florence, Sumter, Chesterfield, and Kershaw Counties and consists primarily of the **Lynches River** and its tributaries from the Little Lynches River to Sparrow Swamp. The watershed occupies 126,853 acres of the Sandhills and Upper and Lower Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Alpin-Rains-Chastain-Noboco-Lynchburg series. The erodibility of the soil (K) averages 0.17; the slope of the terrain averages 3%, with a range of 0-15%. Land use/land cover in the watershed includes: 32.4% agricultural land, 30.0% forested land, 23.1% scrub/shrub land, 12.9% forested wetland (swamp), 0.7% water, 0.6% urban land, and 0.3% nonforested wetland (marsh).

This portion of the Lynches River accepts drainage from its upper reaches, together with Turkey Creek, Merchants Mill Creek, and Bells Branch. The river then accepts drainage from Cousar Branch near the City of Bishopville and Lee State Park followed by Mill Branch, another Mill Branch, Rose Branch, and Back Swamp. Further downstream, another Back Swamp drains into the river followed by Polecat Branch (Mill Bay). The Lynches River State Park is located near the confluence of the Lynches River and Sparrow Swamp. There are several ponds (totaling 159.3 acres) in this watershed and a total of 200.2 stream miles, all classified FW.

Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
PD-080	P	FW	LYNCHEs RIVER AT S-28-15 4.5 MILES SE BETHUNE
PD-071	P	FW	LYNCHEs RIVER AT US 15/SC 34
PD-112	S	FW	COUSAR BRANCH 1/4 MILES BELOW BISHOPVILLE FINISHING CO
PD-364	P/BIO	FW	LYNCHEs RIVER AT US 401
PD-319	P	FW	LYNCHEs RIVER AT SC 403
PD-093	P	FW	LYNCHEs RIVER AT S-21-55

Lynches River - There are five monitoring sites along this section of the Lynches River and recreational uses are fully supported at all sites. At the furthest upstream site (**PD-080**), aquatic life uses are not supported due to occurrences of zinc in excess of the aquatic life acute standards, including a very high concentration of zinc measured in 1994. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Station **PD-080** is physically located in this watershed, but also reflects the influence of drainage from upstream watershed 03040202-050.

At the next site downstream (**PD-071**), aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There was also a very high concentration of zinc measured in 1995 and a very high concentration of chromium measured in 1996. There is a significant increasing trend in pH. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not

standards violations. A significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter. Further downstream (**PD-364**), aquatic life uses are fully supported based on macroinvertebrate community data. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters.

Aquatic life uses are not supported at **PD-319** due to occurrences of copper in excess of the aquatic life acute standards, compounded by a significant increasing trend in turbidity. There was also a very high concentration of mercury measured in 1995. At the furthest downstream site (**PD-093**), aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute standards, compounded by a very high concentration of zinc measured in 1996. A significant decreasing trend in total nitrogen concentration suggests improving conditions for this parameter.

Cousar Branch (PD-112) - Aquatic life uses are partially supported due to pH excursions from groundwater loading. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration and significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Lee State Park Lake - Aquatic herbicides were used from 1989-1992 and again in 1994 and 1995 to control aquatic plants and provide access for swimming and boating. The lake will be treated again in 2000.

A fish consumption advisory has been issued by the Department for mercury and includes a portion of the Lynches River within this watershed (see advisory p.35).

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	NPDES#
FACILITY NAME	TYPE
PERMITTED FLOW @ PIPE (MGD)	LIMITATION
COMMENT	
LYNCHEs RIVER	SC0035378
CITY OF BISHOPVILLE WWTP	MAJOR DOMESTIC
PIPE #: 001 FLOW: 2.5	WATER QUALITY
WQL FOR TRC	
LYNCHEs RIVER	SC0042676
TOWN OF LYNCHBURG WWTP	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.107	EFFLUENT
LYNCHEs RIVER	SC0043702

TOWN OF LAMAR WWTP
 PIPE #: 001 FLOW: 0.25
 PIPE #: 001 FLOW: 0.65 (PROPOSED)

MINOR DOMESTIC
 EFFLUENT
 EFFLUENT

LYNCHEs RIVER
 NATIONAL DYE WORKS
 PIPE #: 001 FLOW: 0.054

SC0040363
 MINOR INDUSTRIAL
 EFFLUENT

LYNCHEs RIVER
 REEVES BROS./BISHOPVILLE
 PIPE #: 001 FLOW: 2.5
 WQL FOR TRC

SC0001490
 MAJOR INDUSTRIAL
 WATER QUALITY

LYNCHEs RIVER
 SUMTER COUNTY
 PIPE #: 001 FLOW: 0.2
 PIPE #: 001 FLOW: 0.5

PROPOSED
 MINOR DOMESTIC
 EFFLUENT
 EFFLUENT

BACK SWAMP
 TOWN OF LYNCHBURG WTP
 PIPE #: 001 FLOW: M/R
 WQL FOR TRC

SC645019
 MINOR INDUSTRIAL
 WATER QUALITY

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME
FACILITY TYPE

PERMIT #
STATUS

LEE COUNTY LANDFILL
 MUNICIPAL

311001-1101 (DWP-038)
 CLOSED

Mining Activities

MINING COMPANY
MINE NAME

PERMIT #
MINERAL

LEE COUNTY
 MCCASKILL MINE

0423-61
 SAND

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Town of Lynchburg and portions of the City of Bishopville and the Town of Cartersville. U.S. Hwy. 76 and a rail line cross the watershed south of Lynchburg connecting the Cities of Sumter and Florence. Interstates I-20 and I-95 also cross the watershed and some growth may be seen around the interchanges. An additional source of future growth is the new Lee Correctional Institution. The Darlington County Water and Sewer Authority may extend water lines into the area east of the Lynches River, which could precipitate residential growth, but no significant commercial or industrial growth. The remainder of the watershed is rural with agricultural and timberland uses.